

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
16 February 2006 (16.02.2006)

PCT

(10) International Publication Number  
**WO 2006/016229 A1**

(51) International Patent Classification<sup>7</sup>:

F04D 29/38

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

(21) International Application Number:

PCT/IB2005/002266

(22) International Filing Date: 25 July 2005 (25.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
BO2004A000507 5 August 2004 (05.08.2004) IT

(71) Applicant (for all designated States except US): SPAL AUTOMOTIVE S.r.l. [IT/IT]; Via per Carpi, 26/B, 1-42015 Correggio (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SPAGGIARI, Alessandro [IT/IT]; Via Leonardo Da Vinci, 8, 1-42015 Correggio (IT).

(74) Agents: BIANCIARDI, Ezio et al; Bugnion S.p.A., Via Goito, 18, 1-40126 Bologna (IT).

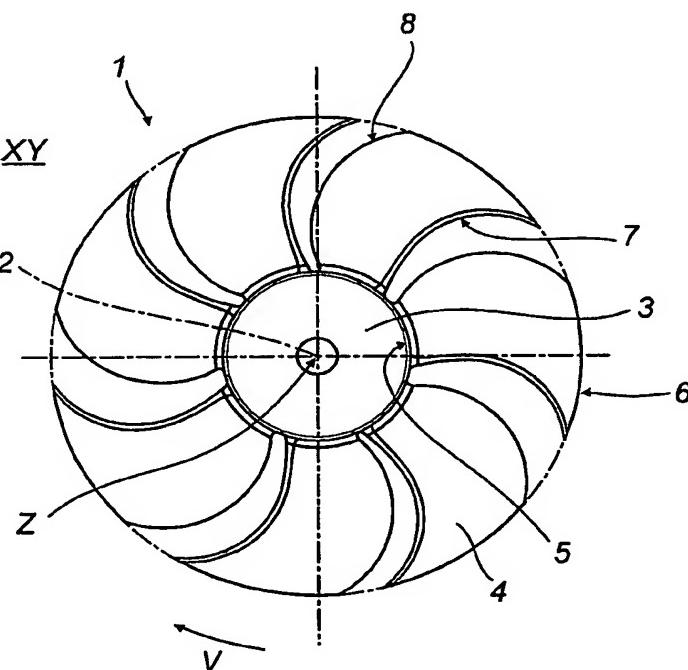
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A HIGH EFFICIENCY AXIAL FAN



(57) Abstract: An axial fan (1) rotating in a plane (XY) about an axis (2) comprises a central hub (3), a plurality of blades (4), which have a root (5) and a tip (6), the blades (4) being delimited by a concave leading edge (7), whose projection in the fan plane of rotation (XY) is defined by two circular arc segments, and a convex trailing edge (8), whose projection in the fan plane of rotation (XY) is defined by one circular arc segment; the blades (4) are made from sections with aerodynamic profiles relatively extending in the direction of their centre line, providing good flow rate and air pressure relative to the overall dimensions of the fan.

WO 2006/016229 A1